

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented): A decentralized control system, comprising:

a plurality of processors;

a plurality of devices controlled by said plurality of processors; and

at least one information transmission path for communicating control information between said plurality of processors and for communicating input/output information between said plurality of processors and the devices,

wherein each of said plurality of processors comprises:

processor detecting means for detecting a connection state of each of said plurality of processors with respect to the information transmission path, said connection state showing which processors of said plurality of processors are connected for controlling the plurality of devices, and being represented by an ID of each of said processors,

wherein said processor detecting means generates a list of available processors,

wherein at least one of said plurality of processors comprises:

program block assigning means for assigning, based on the detected connection state detected by said processor detecting means, a plurality of mutually concurrently executable program blocks to control the device to each of said plurality of processors, respectively,

wherein said program block assigning means divides a program for controlling said devices into said mutually concurrently executable plurality of blocks allowing uniform assignment of a processing load to the processors in accordance with an average number of execution steps or an average processing time for one cycle of each of the plurality of program blocks, generates an assignment list, and distributes the assignment list and said mutually concurrently executable plurality of blocks to said processors; and

program storage means for storing a relevant one of the plurality of mutually concurrently executable program blocks at each of said plurality of processors, each of said plurality of processors executing the stored relevant program blocks, respectively, and

wherein each of said plurality of processors distributes said mutually concurrently executable plurality of blocks and said assignment list, and executes the program blocks based on said assignment list.

2 - 21. (canceled).